UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,625	11/13/2003	Lawrence J. Karr	50037.0065USD2	2408

27488   7590   10/16/2008
MERCHANT & GOULD (MICROSOFT)
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER
NGUYEN, DUC M

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
10/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/713,625	KARR ET AL.
	Examiner	Art Unit	
	DUC M. NGUYEN	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>15 September 2008</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>12-19 and 44-55</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>12-19, 44-55</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

This action is in response to applicant's response filed on 9/15/08. Claims 12-19,

44-55 are now pending in the present application

Double Patenting

1.   The nonstatutory double patenting rejection is based on a judicially created
doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the
unjustified or improper timewise extension of the "right to exclude" granted by a patent
and to prevent possible harassment by multiple assignees.   A nonstatutory
obviousness-type double patenting rejection is appropriate where the conflicting claims
are not identical, but at least one examined application claim is not patentably distinct
from the reference claim(s) because the examined application claim is either anticipated
by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140
F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29
USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.
1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422
F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).
       A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d)
may be used to overcome an actual or provisional rejection based on a nonstatutory
double patenting ground provided the conflicting application or patent either is shown to
be commonly owned with this application, or claims an invention made as a result of
activities undertaken within the scope of a joint research agreement.
       Effective January 1, 1994, a registered attorney or agent of record may sign a
terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with
37 CFR 3.73(b).

2.   Claims **12-19, 44-45, 47-55** are rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 1-15 of U.S.

Patent No. **7,349,675**, hereafter **US'675**, in view of **Lorang** et al (US 5,548,814).

Regarding claim **12**, **US'675** teaches an encoding method for a broadcast

transmitter, wherein the encoder encodes the extracted data packets into a first portion

of encoded data streams for transmission at a first latency and a second portion of

encoded data streams for transmission at a second latency, wherein the second latency

is lower than the first latency; and interleaving said first and second portions over a broadcast frame that includes sub frames, wherein each sub frame includes data associated with the first portion and data associated with the second portion that are interleaved together, and wherein each of the extracted data packets that are associated with the first portion is interleaved across multiple subframes (see claims 1, 10). Although US'675 would implicitly teach input/output controller and a buffer memory (see claim 7), a subcarrier generator (see claim 9), US'675 fails to teach a satellite interface, and a precision-time base coupled to a control processor, one skilled in the art would recognize such above components are well-known components for a broadcast transmitter as disclosed by Lorang (see Fig. 3, ref. 72, col. 7, lines 1-8 and col. 9, lines 50-58, wherein a precision time base coupled to a control processor 72 is just an inherent component in order to provide clock signals to the processors and/or oscillators for operating the transmitter device). Therefore, it would have been obvious to one skilled in the art to modify US'675 for providing components as claimed, in order for a broadcast transmitter to receive data packets from a satellite for re-assembling, encoding, synchronizing and re-transmitting scheduled packet data streams to mobile devices.

Regarding claim **13**, **US'675** in view of **Lorang** would teach the control processor includes at least one of a microprocessor, microcontroller, programmable logic array, programmable gate array, and an ASIC as claimed (see Lorang, Fig. 10 regarding baseband processor components of the Rx/Tx device).

Regarding claim **14**, it would have been obvious to one skilled in the art at the time the invention was made to modify **US'675** and Lorang to utilize field-programmable gate array for the input-output controller, for utilizing advantages of the field-programmable gate array such as low cost, fast turn around (i.e, designs can be placed on an FPGA in typically a few minutes).

Regarding claim **15**, **US'675** in view of **Lorang** would teach the first input interface further comprises at least one of an RS-422 interface, an RS-232 interface, an IEEE-1394 interface, a USB interface, or an Ethernet interface as claimed (see Lorang, col. 6, lines 60-61).

Regarding claim **16**, it would have been obvious to one skilled in the art that the Ethernet interface as disclosed by Lorang (see col. 6, lines 60-61) could also be used for the second interface (84) as well, for interfacing to the PSTN/PDN network (see col. 7, lines 4-8).

Regarding claim **17**, since the use of 1-ppm oscillator as a precision time base is well known in the art, it would have been obvious to one skilled in the art at the time the invention was made to modify **US'675** and Lorang to provide a l-ppm oscillator for the precision time base as claimed, for utilizing advantages of this standard 1-ppm oscillator such as cost.

Regarding claim **18**, the claim is interpreted and rejected for the same reason as set forth in claim 12 above. In addition, **US'675** would implicitly teach a modulator and a D/A converter as claimed in order to transmit a modulated analog signal to mobile devices. Further, it would have been obvious to one skilled in the art at the time the

invention was made to modify US'675 to utilize a filter as claimed, for further improving
the signal quality of the transmit signals

Regarding claim **19**, it would have been obvious to one skilled in the art at the
time the invention was made to modify **US'675** and Lorang to utilize field-programmable
gate array for the modulator, for utilizing advantages of the field-programmable gate
array such as low cost, fast turn around (i.e, designs can be placed on an FPGA in
typically a few minutes).

Regarding claim **44**, it is rejected for the same reason as set forth in claim 12
above regarding the FM subcarrier signal generator. In addition, **US'675** in view of
Lorang as modified would disclose data source with formatted data (see source PC 48
in Fig. 11 and col. 5, lines 15-21), a mobile device that is configured to receive data in a
broadcast mode and a localcast mode (see Fig 11 and col. 12, lines 42-45), and that the
FM subcarrier baseband signals is transmitted to the mobile device in accordance with
a predetermined schedule (see col. 4, lines 60-62 and col. 5, lines 20-21), such that the
mobile device receives the FM subcarrier baseband signals when in the broadcast
mode (see Fig 11 and col. 12, lines 42-45).

Regarding claim **45**, it is rejected for the same reason as set forth in claim 44
above. In addition, as admitted by applicant in [0036], a High-Level Data Link Control
(HDLC) protocol is a standardized, bit oriented, switched and non-switches protocol,
and can be found in ISO standards such as ISO 3309 or ISO 4335. Therefore, it would
have been obvious to one skilled in the art at the time the invention was made to modify

US'675 and Lorang to utilize a HDLC protocol as claimed, for utilizing advantages of a standardized protocol such as popularity and cost.

Regarding claims **47, 48, 49**, they are rejected for the same reason as set forth in claim 12 above. In addition, **US'675** would implicitly teach encoding hashing (or interleaving), dividing into segments and placing packets within a frame as claimed (see claims 3, 4, 12).

Regarding claim **50**, the claim is interpreted and rejected for the same reason as set forth in claim 48 above. In addition, **US'675** in view of **Lorang** as modified would disclose commands (i.e, specified time and frequency of the message, see Lorange col. 5, lines 20-21), hashing (or interleaving, see Chadwick, Fig. 2), filtering and amplifying (see Lorange, Fig. 12). As to the claimed limitation regarding the time-diversity stages, it is noted that the use of a transmit diversity is well known in the art (i.e, frequency diversity, space diversity, coded diversity, etc). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Lorang to transmit the message with time-diversity stages as claimed, for reducing/minimizing signal reception errors caused by fading.

Regarding claim **51**, the claim is interpreted and rejected for the same reason as set forth in claim 45 above regarding the HDLC protocol.

Regarding claims **52-53**, the claim is interpreted and rejected for the same reason as set forth in claims 48-49 above.

Regarding claim **54**, the claim is interpreted and rejected for the same reason as set forth in claim 50 above. In addition, **US'675** in view of **Lorang** as modified would

teach the subcarrier signal generator is further arranged to modulate data

corresponding to the output image symbol by symbol under the transmit clock timing

(see claim 15).

Regarding claim **55**, the claim is interpreted and rejected for the same reason as

set forth in claim 50 above. In addition, since the use of quadrature phase shift keying

(QPSK) modulator among other modulators is well known in the art, it would have been

obvious to one skilled in the art at the time the invention was made to modify US'675 to

utilizing quadrature phase shift keying as claimed, as an alternative of obvious design

choices.

3.   Claim **46** is rejected under 35 U.S.C. 103(a) as being unpatentable by **US'675** in

view of **Lorang,** and further in view of **Campana** (US **6,567,397**).

Regarding claim **46**, it is rejected for the same reason as set forth in claim 44

above. In addition, since the use of a wildcard value in the address fileld to enable

deliver of data to a group of receivers is well known in the art as disclosed by **Campana**

(see col. 2, lines 60-61), it would have been obvious to one skilled in the art at the time

the invention was made to modify **US'675** and Lorang to create an address field

corresponding to the formatted data, such that wildcard values inserted into the address

field, to enable deliver of data to a group of paging receivers, thereby allow fewer

channels to handle multiple broadcast transmitters (i.e, a single channel can be used to

broadcast a message to a plurality of receivers).

Conclusion

4.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

        See the attached PTO-892.

5.   **Any response to this action should be mailed to:**

                        Commissioner of Patents and Trademarks

                        Washington, D.C. 20231

        or faxed to:

                        (571) 273-8300 (for **formal** communications intended for entry)

                        (571)-273-7893 (for informal or **draft** communications).

        Hand-delivered responses should be brought to Customer Service Window,

        Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

        Any inquiry concerning this communication or communications from the examiner

should be directed to Duc M. Nguyen whose telephone number is (571) 272-7893,

Monday-Thursday (9:00 AM - 5:00 PM).

        Or to Nay Maung (Supervisor) whose telephone number is (571) 272-7882.

/Duc M. Nguyen/

Primary Examiner, Art Unit 2618

Oct 8, 2008